

Independent claim 1 recites *inter alia* "using at least one pusher mounted on the second portion of the mold and movable relative to said second portion" and "trimming off a portion of the sheet projecting from the join plane after the mold has closed using at least one trimmer movable relative to said second portion." It is respectfully submitted that Momotome does not disclose, teach or suggest these claimed features.

Momotome discloses a mold having a core 25 suitable for engaging a cavity 21 wherein the core 25 supports a cutting part 27 at its periphery. However, Momotome does not teach or suggest a pusher mounted on a second portion of the mold which is movable relative to said second portion, as recited in claim 1. According to Momotome, the upper half of the mold has only two parts that are movable relative to each other, i.e., the core 25 and the cutting part 27. The core side pressing part 26 is not movable relative to the core 25.

Therefore, it is respectfully submitted that claim 1 is patentable over Momotome. Further, it is respectfully submitted that claims 2, 4, 5, 7 and 18 are patentable at least in view of the patentability of claim 1 from which they depend, as well as for the additional features they recite.

Independent claim 11 recites *inter alia* "at least one pusher mounted on the second portion of the mold and movable relative thereto" and "at least one trimmer movable relative to said second portion." For the reasons set forth above with respect to claim 1, it is respectfully submitted that Momotome does not disclose, teach or suggest these claimed features. Therefore, it is respectfully submitted that claim 11 is patentable over Momotome.

Independent claims 15 and 16 recite *inter alia* "using a mold comprising first and second mold portions that are movable relative to each other and suitable for defining a join plane of the mold" and "using at least one pusher mounted on the second portion of the mold and movable relative to said second portion." It is respectfully submitted that Momotome does not disclose, teach or suggest these claimed features.

As explained above, Momotome discloses a mold having an upper half comprising a core 25 and a core side pressing part 26 that is not movable relative to the core 25. Thus, the upper half of the mold according to Momotome does not have a pusher mounted thereon that is movable relative thereto, as recited in claims 15 and 16. Furthermore, the cutting part 27 does not define a join plane of the mold with the lower half 21 of the mold and, therefore, cannot reasonably be considered to be a "second mold portion" as recited in claims 15 and 16.

Therefore, it is respectfully submitted that claims 15 and 16 are patentable over Momotome. Further, it is respectfully submitted that claims 20, 22-24, 26 and 27 are patentable at least in view of the patentability of claim 15 from which they depend, as well as for the additional features they recite.

Independent claim 17 recites *inter alia* "at least one pusher mounted on the second portion of the mold and movable relative to the second portion" and "at least one trimmer movable relative to said second portion." For the reasons set forth above with respect to claim 1, it is respectfully submitted that Momotome does not disclose, teach or suggest these claimed features. Therefore, it is respectfully submitted that claim 17 is patentable over Momotome.

In view of the foregoing, withdrawal of the rejection of claims 1, 2, 4, 5, 7, 11, 15-18, 20, 22-24, 26, 27, 35 and 36 under 35 U.S.C. §102(b) over Momotome is respectfully requested.

Claims 1, 2, 4, 11, 17, 18, 20, 22, 23, 27 and 35 stand rejected under 35 U.S.C. §102(b) over U.S. 5,800,759 to Yamazaki et al. This rejection is moot with respect to canceled claim 35 and is respectfully traversed with respect to the remaining claims. Further, the rejection of dependent claims 20, 22, 23 and 27 is improper because independent claim 15 from which they depend is not rejected.

Yamazaki et al. does not disclose, teach or suggest at least one pusher mounted on the second portion of the mold and movable relative to the second portion, as recited in independent claims 1, 11 and 17. Yamazaki et al. discloses an apparatus having an upper core die 11 comprising a projecting part 110. The upper core die 11 supports a cutting blade 21. However, as shown in Figs. 6A-C, the projecting part 110 is not movable relative to the remainder of the upper core die 11.

Therefore, it is respectfully submitted that claims 1, 11 and 17 are patentable over Yamazaki et al. Further, it is respectfully submitted that claims 2, 4 and 18 are patentable at least in view of the patentability of claim 1 from which they depend, as well as for the additional features they recite.

In view of the foregoing, withdrawal of the rejection of claims 1, 2, 4, 11, 17, 18, 20, 22, 23, 27 and 35 under 35 U.S.C. §102(b) over Yamazaki et al. is respectfully requested.

Claims 1-4, 7, 8, 11, 13, 17, 18, 20-23, 26, 27, 31-32 and 35 stand rejected under 35 U.S.C. §102(b) over U.S. 5,182,787 to King et al. This rejection is moot with respect to canceled claim 35 and is respectfully traversed with respect to the remaining claims. Further, the rejection of dependent claims 20-23, 26 and 27 is improper because independent claim 15 from which they depend is not rejected.

King et al. does not disclose, teach or suggest a trimmer that is movable relative to the second portion of the mold, as recited in independent claims 1, 11 and 17. King et al. discloses a mold assembly having a core 3 that carries a cutting blade 12. However, the cutting blade 12 is not movable relative to the core 3.

Therefore, it is respectfully submitted that claims 1, 11 and 17 are patentable over King et al. Further, it is respectfully submitted that claims 2-4, 7, 8, 13, 17 and 18 are patentable at least in view of the patentability of claims 1 and 11 from which they respectively depend, as well as for the additional features they recite.

Independent claim 31 recites *inter alia* "using a mold comprising first and second mold portions . . . and a plurality of pushers all movably mounted on the second mold portion." It is respectfully submitted that King et al. does not disclose, teach or suggest these claimed features.

King et al. discloses a single plunger 6 that is movable relative to the core 3 of the mold assembly. Thus, King et al. does not teach or suggest a plurality of pushers all movably mounted on the second mold portion, as recited in claim 31.

Therefore, it is respectfully submitted that claim 31 is patentable over King et al. Further, it is respectfully submitted that claim 32 is patentable at least in view of the patentability of claim 31 from which it depends, as well as for the additional features it recites.

Claims 33 and 34 stand rejected under 35 U.S.C. §103(a) over Momotome in view of JP 01141719 A to Yamamoto et al. This rejection is respectfully traversed.

Independent claim 33 recites *inter alia* "pre-trimming the sheet in such a manner that a first portion of the sheet is connected to a second portion of the sheet by a bridge of material extending between cut-outs." It is respectfully submitted that the asserted combination of Momotome and Yamamoto et al. does not disclose, teach or suggest these claimed features.

It is respectfully submitted that the asserted combination of Momotome and Yamamoto et al. is improper. Momotome discloses a method of injection molding using a cutter part 27 to close the cavity in which a synthetic resin 18 is injected. Thus, the cutting part 27 according to Momotome cuts off the fringe part of the laminated sheet 23 in its entirety. Therefore, Momotome teaches away from pretrimming the laminated sheet, as recited in claim 33, because any pretrimmed portion would be removed by the cutting part

Furthermore, Yamamoto et al. discloses making a part by thermoforming, whereas Momotome discloses injection molding. It is respectfully submitted that a person of ordinary skill in the art would not have been motivated to combine the teachings of references that are related to such different methods of manufacture.

The Office Action asserts that it is "notoriously well known in the art to [sic] perforations in between thermoformed parts in order to allow for easy later separation" and that it is "well known to thermoform a single sheet into multiple articles that are separated at a later time." However, the Office Action fails to provide any motivation for one skilled in the art to apply such teachings to an injection molding process as taught by Momotome, especially in view of the teachings of Momotome away from the modification proposed by the Office Action.

Therefore, it is respectfully submitted that the Office Action fails to establish a *prima facie* case of obviousness. Accordingly, withdrawal of the rejection of claims 33 and 34 under 35 U.S.C. §103(a) over Momotome and Yamamoto et al. is respectfully requested.

Claims 6, 14, 19, 25 and 28 stand rejected under 35 U.S.C. §103(a) over Momotome in view of U.S. 4,545,105 to Kowalsky and U.S. 6,328,549 to Valyi et al. This rejection is respectfully traversed.

As set forth above, Momotome fails to disclose, teach or suggest all of the features recited in independent claims 1 and 15. Neither Kowalsky nor Valyi et al. overcome the deficiencies of Momotome.

Therefore, it is respectfully submitted that claims 6, 14, 19, 25 and 28 are patentable at least in view of the patentability of claims 1 and 15 from which they respectively depend, as well as for the additional features they recite. Accordingly, withdrawal of the rejection of claims 6, 14, 19, 25 and 28 under 35 U.S.C. §103(a) over Momotome, Kowalsky and Valyi et al. is respectfully requested.

Claims 3, 9, 10, 12, 14, 21 and 29-32 stand rejected under 35 U.S.C. §103(a) over Momotome in view of U.S. 3,115,678 to Keen et al., U.S. 4,961,700 to Dunbar and King et al. This rejection is respectfully traversed.

As set forth above, Momotome fails to disclose, teach or suggest all of the features recited in independent claims 1, 11 and 15 and King et al. fails to disclose, teach or suggest all of the features recited in independent claims 1, 11 and 31. Neither Keen et al. nor Dunbar overcome the deficiencies of Momotome and King et al.

Furthermore, it is respectfully submitted that the asserted combination of Keen et al., Dunbar and/or King et al. with Momotome is improper. Momotome does not teach or suggest including even one pusher that is movable with respect to the second portion of the mold, let alone a plurality of pushers as recited in claim 31. The Office Action appears to be relying on impermissible hindsight to modify the fully operable mold taught by Momotome to include a plurality of pushers.

Therefore, it is respectfully submitted that claims 3, 9, 10, 12, 14, 21 and 29-30 are patentable over the asserted combination of Momotome, Keen et al., Dunbar and King et al. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) over Momotome, Keen et al., Dunbar and King et al. is respectfully requested.

In view of the foregoing, Applicant submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-34 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned representative at the telephone number set forth below.

Respectfully submitted,



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Attachments:

Petition for Extension of Time
Appendix

Date: April 30, 2003

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DEPOSIT ACCOUNT USE AUTHORIZATION Please grant any extension necessary for entry; Charge any fee due to our Deposit Account No. 15-0461
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APPENDIX

Changes to Claims:

Claims 35 and 36 are canceled.

The following is a marked-up version of the amended claims:

1. (Twice Amended) A method of manufacturing a reinforced plastics material part from a sheet of drapable material by using a mold comprising first and second mold portions that are movable relative to each other, the method comprising:

- placing the sheet on the first portion of the open mold;
- pressing the sheet against the first portion at at least one location using at least one pusher mounted on the second portion of the mold and movable relative to said second portion;
- closing the mold, a portion of the sheet projecting from the join plane after the mold has closed;
- compacting the sheet;
- trimming off a portion of the sheet projecting from the join plane after the mold has closed using at least one trimmer movable relative to said second portion; and
- unmolding the part.

11. (Twice Amended) A mold for forming a sheet of reinforced plastics material, the mold comprising:

first and second portions that are movable relative to each other;
at least one pusher mounted on the second portion and movable relative thereto so as to press said sheet at least locally against the first portion before the mold is closed; and

at least one trimmer movable relative to said second portion enabling the portion of the sheet that projects from the join plane to be trimmed off once the mold is closed.

15. (Twice Amended) A method of manufacturing a reinforced plastics material part from a sheet of drapable material by using a mold comprising first and second mold portions that are movable relative to each other and suitable for defining a join plane of the mold, the method comprising:

- preheating the sheet;
- placing the preheated sheet on the first portion of the open mold;
- pressing the sheet against the first portion at at least one location using at least one pusher mounted on the second portion of the mold and movable relative to said second portion;
- closing the mold and compacting the sheet; and
- unmolding the part.

16. (Twice Amended) A method of manufacturing a reinforced plastics material part from a sheet of drapable material by using a mold comprising first and second mold portions that are movable relative to each other and suitable for defining a join plane of the mold, the method comprising:

- preheating the sheet;
- placing the preheated sheet on the first portion of the open mold;
- pressing the sheet against the first portion at at least one location using at least one pusher mounted on the second portion of the mold and movable relative to said second portion;
- closing the mold, a portion of the sheet projecting from the join plane after the mold has closed;

- compacting the sheet;
- trimming of the portion of the sheet that projects from the join plane; and
- unmolding the part.

17. (Twice Amended) An apparatus for manufacturing a reinforced plastics material part from a sheet of drapable material by using a mold comprising first and second mold portions that are movable relative to each other, comprising:

means for placing the sheet on the first portion of the open mold;

means for pressing the sheet against the first portion at least one location using at least one pusher mounted on the second portion of the mold and movable relative to said second portion;

means for closing the mold, a portion of the sheet projecting from the join plane after the mold has closed;

means for compacting the sheet;

means for trimming off the portion of the sheet that projects from the join plane comprising at least one trimmer movable relative to said second portion; and

means for unmolding the part.

31. (Amended) A method of manufacturing a reinforced plastics material part from a sheet of drapable material by using a mold comprising first and second mold portions that are movable relative to each other and suitable for defining a join plane of the mold, and a plurality of pushers all movably mounted on the second mold portion, the method comprising:

· placing the sheet on the first portion of the open mold;

· pressing the sheet against the first portion of the mold initially using at least one pusher situated substantially in the center of the mold, and then progressively using other pushers, a pusher furthest from the center of the mold being actuated last;

- closing the mold;
- compacting the sheet; and
- unmolding the part.